

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-37 (Canceled).

Claim 38 (New): A method for the production of a powder comprising essentially spherical particles of an aromatic polyether ketone plastic, comprising:

mixing a matrix micropowder into a liquid phase to form a suspension wherein the particle size of the matrix micropowder is less than the particle size of the powder;

spraying the suspension through a nozzle to form droplets comprising the matrix micropowder; and

vaporizing or evaporating a liquid component from the droplets to form the powder in the form of essentially spherical agglomerates.

Claim 39 (New): The method according to Claim 38, wherein the liquid phase is further mixed with at least one of a reinforcing fiber or a stiffening fiber having a length less than the particle size of the powder.

Claim 40 (New): The method according to Claim 38, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10 μm .

Claim 41 (New): The method according to Claim 38, wherein the matrix micropowder has an average grain size d_{50} of 5 μm .

Claim 42 (New): The method of Claim 39, wherein the fibers have an average length L50 of 20 to 150 μm .

Claim 43 (New): The method according to Claim 39, wherein the fibers have an average length L₅₀ of 40 to 70 μm .

Claim 44 (New): The method according to Claim 39, wherein the matrix micropowder has an average grain size d₅₀ between 3 and 10 μm and the fibers have an average length L₅₀ of 10 to 100 μm .

Claim 45 (New): The method according to Claim 39, wherein the matrix micropowder has an average grain size d₅₀ of 5 μm and the fibers have an average length L₅₀ of 10 to 80 μm .

Claim 46 (New): The method according to Claim 38, wherein the droplets have an average diameter d₅₀ of 10 to 70 μm .

Claim 47 (New): The method according to Claim 38, wherein the vaporizing or evaporating is carried out while the droplets are moving through a heating segment.

Claim 48 (New): A method for the production of a powder comprising a first component in the form of essentially spherical powder particle and at least one of a stiffening fiber or a reinforcing fiber, wherein the first component comprises a matrix material, and the fibers are embedded in the powder particles, comprising:

mixing a matrix micropowder with a liquid phase to form a suspension wherein the particle size of the matrix micropowder is less than the particle size of the powder;

spraying the suspension through a nozzle to form droplets comprising the matrix micropowder; and

vaporizing or evaporating a liquid component from the droplets to form the powder in the form of essentially spherical agglomerates.

Claim 49 (New): The method according to Claim 48, wherein the liquid phase is further mixed with at least one of a reinforcing fiber or a stiffening fiber having a length less than the particle size of the powder.

Claim 50 (New): The method according to Claim 48, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10 μm .

Claim 51 (New): The method according to Claim 48, wherein the matrix micropowder has an average grain size d_{50} of 5 μm .

Claim 52 (New): The method of Claim 48, wherein the fibers have an average length L50 of 20 to 150 μm .

Claim 53 (New): The method according to Claim 48, wherein the fibers have an average length L50 of 40 to 70 μm .

Claim 54 (New): The method according to Claim 49, wherein the matrix micropowder has an average grain size d_{50} between 3 and 10 μm and the fibers have an average length L50 of 10 to 100 μm .

Claim 55 (New): The method according to Claim 49, wherein the matrix micropowder has an average grain size d_{50} of 5 μm and the fibers have an average length L50 of 10 to 80 μm .

Claim 56 (New): The method according to Claim 48, wherein the droplets have an average diameter d_{50} of 10 to 70 μm .

Claim 57 (New): The method according to Claim 48, wherein the vaporizing or evaporating is carried out while the droplets are moving through a heating segment.

Claim 58 (New): A method for the production of a powder comprising essentially spherical particles of an aromatic polyether ketone plastic, comprising:

cooling a coarse granulate comprising a plastic matrix material to form brittle, coarse granulates;

grinding the brittle, coarse granulates; and

separating the ground granulate into a fraction spectrum.

Claim 59 (New): The method according to Claim 58, wherein the coarse granulate is a fiber-reinforced plastic matrix material.

Claim 60 (New): The method according to Claim 58, wherein the grinding is carried out with a pinned disk mill.

Claim 61 (New): The method according to Claim 58, wherein the grinding is carried out with cooling.

Claim 62 (New): The method according to Claim 58, wherein the separating is carried out with an air separator.

Claim 63 (New): The method according to Claim 58, further comprising: smoothing the ground granulate.

Claim 64 (New): The method according to Claim 63, wherein the smoothing is carried out by embedding or accumulating at least one of microparticles or nanoparticles.

Claim 65 (New): A method for producing a powder comprising a first component in the form of essentially spherical powder particles and at least one of a stiffening fiber or a reinforcing fiber, wherein the first component comprises a matrix material, comprising:
cooling a coarse granulate comprising a plastic matrix material to form brittle, coarse granulates;

grinding the brittle, coarse granulates; and
separating the ground granulate into a fraction spectrum.

Claim 66 (New): The method according to Claim 65, wherein the coarse granulate is a fiber-reinforced plastic matrix material.

Claim 67 (New): The method according to Claim 65, wherein the grinding is carried out with a pinned disk mill.

Claim 68 (New): The method according to Claim 65, wherein the grinding is carried out with cooling.

Claim 69 (New): The method according to Claim 65, wherein the separating is carried out with an air separator.

Claim 70 (New): The method according to Claim 65, further comprising:
smoothing the ground granulate.

Claim 71 (New): The method according to Claim 70, wherein the smoothing is carried out by embedding or accumulating at least one of microparticles or nanoparticles.

Claim 72 (New): A method for producing a powder comprising essentially spherical particles of an aromatic polyether ketone plastic, comprising:
melting a matrix material;
blowing the melted matrix material through a nozzle to form droplets; and
passing the droplets through a cooling segment.

Claim 73 (New): The method according to Claim 72, further comprising:
stirring at least one of stiffening fibers or reinforcing fibers into the melted matrix material before blowing the melted matrix material.

Claim 74 (New): The method according to Claim 72, wherein the droplets are formed in a hot gas jet.

Claim 75 (New): The method according to Claim 72, further comprising:
separating the cooled droplets into a fraction spectrum.

Claim 76 (New): A method for producing a powder comprising a first component in the form of essentially spherical powder particles and at least one of a stiffening fiber or a reinforcing fiber, wherein the first component comprises a matrix material, comprising:
melting a matrix material;
blowing the melted matrix material through a nozzle to form droplets; and
passing the droplets through a cooling segment.

Claim 77 (New): The method according to Claim 76, further comprising:
stirring at least of stiffening or reinforcing fibers into the melted matrix material before blowing the melted matrix material.

Claim 78 (New): The method according to Claim 76, wherein the droplets are formed in a hot gas jet.

Claim 79 (New): The method according to Claim 76, further comprising:
separating the cooled droplets into a fraction spectrum.

Claim 80 (New): A method for producing a spatial structure, comprising:
melting the powder according to Claim 38.

Claim 81 (New): The method according to Claim 80, wherein melting includes powder-based generative rapid prototyping, selective laser sintering or laser melting.

Claim 82 (New): A method for producing a spatial structure, comprising:
melting the powder according to Claim 38.

Claim 83 (New): The method according to Claim 82, wherein melting includes
powder-based generative rapid prototyping, selective laser sintering or laser melting.

Claim 84 (New): A molded body obtained by powder-based generative rapid
prototyping of the powder according to Claim 38.

Claim 85 (New): The molded body of Claim 84, wherein the powder-based
generative rapid prototyping is selective laser sintering or laser melting.

Claim 86 (New): A molded body obtained by powder-based generative rapid
prototyping of the powder according to Claim 38.

Claim 87 (New): The molded body of Claim 86, wherein the powder-based
generative rapid prototyping is selective laser sintering or laser melting.

Claim 88 (New): The molded body according to Claim 84, comprising one or more
interior reinforcements.

Claim 89 (New): The molded body according to Claim 84, comprising a three-
dimensional framework reinforcement.

Claim 90 (New): The molded body according to Claim 86, comprising one or more interior reinforcements.

Claim 91 (New): The molded body according to Claim 86, comprising a three-dimensional framework reinforcement.

Claim 92 (New): A molded body obtained by powder-based generative rapid prototyping of the powder according to Claim 38.

Claim 93 (New): The molded body of Claim 92, wherein the powder-based generative rapid prototyping is selective laser sintering or laser melting.

Claim 94 (New): The molded body according to Claim 93, comprising one or more interior reinforcements.